

Listing of the Claims:

The following is a complete listing of all the claims in the application, with an indication of the status of each:

1-74. (Canceled)

1 75. (Currently Amended) A method of reducing traffic in a decentralised
2 decentralized peer-to-peer network, said peer-to-peer network operating over an
3 underlying network comprising first and second network portions, the method
4 comprising:

5 identifying, with an Internet Service Provider (ISP) router, whether
6 messages in the first network portion are peer-to-peer messages or other messages;

7 routing a-all peer-to-peer message-messages in one-of said network portions
8 the first network portion with an intended destination in the other-of said network
9 portions-second network portion outside of a network of an Internet Service
10 Provider (ISP) to a gateway between peer-to-peer nodes residing on said first and
11 second network portions; and

12 controlling transport of said message-peer-to-peer messages at said gateway
13 to limit propagation of said message-peer-to-peer messages into said-other-of said
14 network-portions second network portion, without limiting propagation of the other
15 messages into the second network portion.

1 76. (Currently Amended) ~~A method as claimed in~~ The method of claim 75,
2 wherein said first network portion comprises a portion of said underlying network
3 managed by ~~a first entity~~ the ISP and said second network portion comprises a
4 portion of said underlying network not managed by the ISP that is connected to said
5 first network portion across a boundary.

1 77. (Currently Amended) ~~A method as claimed in~~ The method of claim 76, further
2 comprising:
3 ~~implemented to limit~~ limiting a number of peer-to-peer connections across
4 said boundary to a permitted maximum.

1 78. (Currently Amended) ~~A method as claimed in~~ The method of claim 75,
2 wherein said transport controlling further comprises:
3 blocking said ~~message~~ peer-to-peer messages at said gateway.

1 79. (Currently Amended) ~~A method as claimed in~~ The method of claim 75,
2 wherein said transport controlling further comprises:
3 redirecting said ~~message~~ peer-to-peer messages to a peer-to-peer node within
4 said ~~one of said network portions~~ first network portion.

1 80. (Currently Amended) ~~A method as claimed in~~ The method of claim 75,
2 wherein said transport controlling further comprises:

3 responding to said ~~message~~ peer-to-peer messages from said gateway.

1 81. (Currently Amended) ~~A method as claimed in~~ The method of claim 80
2 wherein said ~~message comprises a query~~ peer-to-peer messages comprise queries,
3 and wherein said responding further comprises:

4 sending a response to said ~~query~~ queries comprising cached data derived
5 from previous ~~response~~ responses to the queries.

1 82. (Currently Amended) ~~A method as claimed in~~ The method of claim 80,
2 wherein said ~~message comprises a file request~~ peer-to-peer messages comprise file
3 requests, and wherein said responding further comprises:

4 sending a response to said file ~~request~~ requests comprising previously cached
5 data for a requested file.

1 83. (Currently Amended) ~~A method as claimed in~~ The method of claim 75,
2 wherein said ~~message comprises a file request message~~ peer-to-peer messages
3 comprises file request messages, and wherein said controlling further comprises:

4 modifying a response to a previous file search request such that said response
5 does not indicate that a requested file may be found in said ~~other of said network~~
6 ~~portions~~ second network portion.

1 84. (Currently Amended) ~~A method as claimed in~~ The method of claim 83,
2 wherein ~~a~~ said requested file is identified by a hash value.

1 85. (Currently Amended) ~~A method as claimed in~~ The method of claim 83, further
2 comprising:
3 storing requested files in a cache, ~~and~~ wherein said response is modified to
4 refer to said cache.

1 86. (Currently Amended) ~~A method as claimed in~~ The method of claim 83,
2 wherein said underlying network comprises a third network portion, and wherein
3 said modifying further comprises:
4 modifying said response to indicate that said requested file is obtainable from
5 a peer-to-peer node located on said third network portion.

1 87. (Currently Amended) ~~A method as claimed in~~ The method of claim 75,
2 wherein said physical network comprises a third network portion, wherein use of
3 each of said network portions has an associated cost, wherein data transport over
4 said third network portion has a cost less than a cost associated with said ~~other of~~
5 ~~said network portions~~ second network portion, and wherein said controlling further
6 comprises:
7 directing said ~~message~~ peer-to-peer messages into said third network portion.

1 88. (Currently Amended) ~~A method as claimed in~~ The method of claim 75,
2 wherein ~~a said peer-to-peer message has a message identifier~~ messages have
3 message identifiers, and wherein said controlling further comprises:

4 storing said message identifier ~~identifiers~~ for said message-peer-to-peer
5 messages;

6 monitoring message identifiers of the peer-to-peer messages passing through
7 said gateway to produce identified messages;[[,]] and

8 limiting propagation of said identified ~~message-~~ messages such that said
9 ~~message-passes-messages pass~~ between said first and second network portions no
10 more than a permitted maximum number of times.

1 89. (Currently Amended) ~~A method as claimed in~~ The method of claim 88,
2 wherein said permitted maximum number of times is one.

90-91. (Canceled).

1 92. (Currently Amended) A computer network message controller ~~for reducing~~
2 that reduces traffic in a ~~decentralised~~ decentralized peer-to-peer network, said peer-
3 to-peer network operating over a physical network comprising first and second
4 network portions, said network message controller comprising:

5 a router that identifies whether messages in the first network portion are
6 peer-to-peer messages or other messages and routes all peer-to-peer messages in the

7 first network portion for routing a peer-to-peer message in one of said first network
8 portions with an intended destination in the other of said network portions second
9 network portion outside of a network of an Internet Service Provider (ISP) to a
10 gateway between peer-to-peer nodes residing on said first and second network
11 portions; and

12 a gateway controller ~~configured to control~~ that controls transport of said
13 ~~message-peer-to-peer messages~~ into said ~~other of said network portions second~~
14 network portion, without limiting propagation of the other messages into the second
15 network portion.

1 93. (Currently Amended) ~~A computer network message controller as claimed in~~
2 The computer network message controller of claim 92, wherein said first network
3 portion comprises a portion of said physical network managed by ~~a first entity the~~
4 ISP and said second network portion comprises a portion of said physical network
5 not managed by the ISP that is connected to said first network portion across a
6 boundary.

1 94. (Currently Amended) ~~A computer network message controller as claimed in~~
2 The computer network message controller of claim 93, wherein said gateway
3 controller ~~is configured to limit~~ limits a number of peer-to-peer connections across
4 said boundary to a permitted maximum.

1 95. (Currently Amended) ~~A computer network message controller as claimed in~~
2 The computer network message controller of claim 92 wherein said gateway
3 ~~controller is configured to block said message~~ blocks the peer-to-peer messages at
4 said gateway.

1 96. (Currently Amended) ~~A computer network message controller as claimed in~~
2 The computer network message controller of claim 92 wherein said gateway
3 ~~controller is configured to redirect said message~~ redirects the peer-to-peer messages
4 to a peer-to-peer node within said ~~one of said network portions~~ first network
5 portion.

1 97. (Currently Amended) ~~A computer network message controller as claimed in~~
2 The computer network message controller of claim 92 wherein said gateway
3 ~~controller is configured to respond to said message~~ responds to the peer-to-peer
4 messages.

1 98. (Currently Amended) ~~A computer network message controller as claimed in~~
2 The computer network message controller of claim 97, further comprising:
3 a cache ~~to store~~ that stores data, wherein said ~~message comprises a query~~
4 peer-to-peer messages comprise queries, and wherein said gateway controller is
5 ~~configured to send~~ sends a response to said ~~query~~ queries including data from said
6 cache.

1 99. (Currently Amended) ~~A computer network message controller as claimed in~~
2 The computer network message controller of claim 97 wherein said ~~message~~
3 ~~comprises a file request~~ peer-to-peer messages comprise file requests, further
4 comprising:

5 a cache ~~to store~~ that stores data derived from previous responses to file
6 requests, and wherein said gateway controller ~~is configured to send~~ sends a
7 response to said file request including data from said cache.

1 100. (Currently Amended) ~~A computer network message controller as claimed in~~
2 The computer network message controller of claim 92, wherein said ~~message~~
3 ~~comprises a file request message~~ peer-to-peer messages comprise file request
4 messages, and wherein said gateway controller ~~is configured to modify~~ modifies a
5 response to a previous file search request such that said response does not indicate
6 that a requested file may be found in said ~~other of said network portions~~ second
7 network portion.

1 101. (Currently Amended) ~~A computer network message controller as claimed in~~
2 The computer network message controller of claim 100, wherein ~~a~~ said requested
3 file is identified by a hash value.

1 102. (Currently Amended) ~~A computer network message as claimed in The~~
2 computer network message controller of claim 100, further comprising:

3 a cache ~~for storing that~~ stores requested files, and ~~where~~ wherein said
4 gateway controller ~~is configured to modify~~ modifies said response to refer to said
5 cache.

1 103. (Currently Amended) ~~A computer network message as claimed in The~~
2 computer network message controller of claim 92 wherein said underlying network
3 further comprises:

4 a third network portion, ~~and wherein said gateway controller is configured to~~
5 ~~modify~~ modifies said response to indicate that said requested file is obtainable from
6 a peer-to-peer node located on said third network portion.

1 104. (Currently Amended) ~~A computer network message controller as claimed in~~
2 The computer network message controller of claim 92, wherein ~~a~~ said peer-to-peer
3 ~~message has a message identifier~~ messages have message identifiers, and wherein
4 said gateway controller ~~is configured to store~~ stores said message identifier
5 identifiers for said ~~message~~ peer-to-peer messages, ~~monitor~~ monitors message
6 identifiers of the peer-to-peer messages passing through said gateway to produce
7 identified messages, and ~~limit~~ limits propagation of said identified ~~message~~
8 messages such that said ~~message passes~~ identified messages pass between said first
9 and second network portions no more than a permitted maximum number of times.

1 105. (Currently Amended) ~~A computer network message controller as claimed in~~
2 The computer network message controller of claim 104, wherein said permitted
3 maximum number of times is one.

1 106-107. (Canceled).

1 108. (Currently Amended) ~~A computer network message controller as claimed in~~
2 The computer network message controller of claim 92, wherein said gateway
3 controller further comprises:
4 a processor, and
5 a program memory storing processor control code coupled to said processor to
6 load and implement said code, ~~said code comprising code to configure said gateway~~
7 ~~controller to operate as claimed in claim 92.~~

1 109. (Canceled).

1 110. (Currently Amended) A gateway controller, ~~in particular for the computer~~
2 ~~network message controller of claim 92, for reducing that reduces~~ traffic in a
3 ~~decentralised~~ decentralized peer-to-peer network operating over an underlying
4 network comprising first and second network portions, the controller being

5 ~~configured for operation~~ operating at a gateway between peer-to-peer nodes residing
6 on said first and second network portions, the gateway controller comprising:

7 an interface for said first and second network portions, ~~for receiving a that~~
8 receives all peer-to-peer message- messages in one of said the first network portions
9 portion with an intended destination in the other of said second network portions
10 portion outside of a network of an Internet Service Provider (ISP), wherein a router
11 identifies whether messages in the first network portion are peer-to-peer messages
12 or other messages; and

13 a controller ~~configured to control transport of said message into said other of~~
14 said network portions that limits propagation of the peer-to-peer messages into the
15 second network portion without limiting propagation of the other messages into the
16 second network portion.

1 111. (Currently Amended) ~~A gateway controller as claimed in The gateway~~
2 controller of claim 110, wherein said controller is configured to block said message
3 blocks the peer-to-peer messages at said gateway.

1 112. (Currently Amended) ~~A gateway controller as claimed in The gateway~~
2 controller of claim 110, wherein said controller is further configured to redirect a
3 said message redirects the peer-to-peer messages to a peer-to-peer node within said
4 one of said first network portions portion.

1 113. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway
2 controller of claim 110, wherein said controller is ~~further configured to respond to a~~
3 ~~said message~~ responds to the peer-to-peer messages.

1 114. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway
2 controller of claim 113, further comprising:

3 a query cache ~~to store that stores~~ data derived from responses to queries, and
4 wherein said controller is ~~configured to respond~~ responds to a said query the queries
5 using data from said query cache, wherein the peer-to-peer messages comprise
6 queries.

1 115. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway
2 controller of claim 113, further comprising:

3 a file request cache ~~to store that stores~~ data derived from responses to file
4 requests, and wherein the peer-to-peer messages comprise file requests and said
5 controller is configured to respond responds to a said file request requests using
6 data from said file request cache.

116. (Canceled).

1 117. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway
2 controller of claim 110, wherein said ~~message comprises a file request message~~

3 peer-to-peer messages comprise file request messages, and ~~wherein~~ said controller
4 ~~is configured to modify~~ modifies a response to a previous file search request such
5 that said response does not indicate that a requested file may be found in said ~~other~~
6 ~~of said network portions~~ second network portion.

1 118. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway
2 controller of claim 117, wherein ~~a~~ said requested file is identified by a hash value.

1 119. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway
2 controller of claim 117, further comprising:

3 a cache ~~for storing that stores~~ requested files, and wherein said controller is
4 ~~configured to modify~~ modifies said response to refer to said cache.

1 120. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway
2 controller of claim 110, wherein said underlying network further comprises:

3 a third network portion, and wherein said controller ~~is configured to modify~~
4 modifies said response to indicate said requested file is obtainable from a peer-to-
5 peer node located on said third network portion.

1 121. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway
2 controller of claim 110, wherein ~~a said peer-to-peer message has a message~~
3 ~~identifier~~ the peer-to-peer messages have message identifiers, and ~~wherein~~ said

4 | controller ~~is configured to store~~ stores said message ~~identifier for said message~~
5 | identifiers for the peer-to-peer messages, ~~monitor~~ monitors the message identifiers
6 | of ~~messages the peer-to-peer messages~~ passing through said gateway to produce
7 | identified messages, and ~~limit~~ limits propagation of said identified ~~message~~
8 | messages such that said ~~message passes peer-to-peer messages pass~~ between said
9 | first and second network portions no more than a permitted maximum number of
10 | times.

1 | 122. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway
2 | controller of claim 121, wherein said permitted maximum number of times is one.

1 | 123. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway
2 | controller of claim 110, wherein said first network portion comprises a portion of
3 | said underlying network managed by ~~a first entity~~ the ISP and said second network
4 | portion comprises a portion of said underlying network not managed by the ISP
5 | that is connected to said first network portion across a boundary, and wherein said
6 | controller ~~is configured to provide~~ provides a limited number of peer-to-peer
7 | connections across said boundary.

124-125. (Canceled).

1 126. (Currently Amended) ~~A gateway controller as claimed in~~ The gateway
2 controller of claim 110, wherein said controller further comprises:

3 a processor;[[,]] and

4 a program memory storing processor control code coupled to said processor to
5 load and implement said code, said code comprising code to configure said controller
6 to control transport of said message into said other of said network portions.

127-148. (Canceled).